THE MARTIN STAR

October 1943

FRED M. BRYANT, Chief of Operations

Rides His Hobby

TAKING a Martin Marauder into the air for its first flight, checking every movement, looking for any peculiarities and searching for possible "bugs" that might be present is no job for an amateur. Such a business is a cold, scientific proposition with no provisions for carelessness or chance, and only the best pilots are qualified for this type of work.

In brief, that is the theory of Fred M. Bryant, the Martin-Nebraska Company's Chief of Operations.

With Fred, flying airplanes is more than just a business—it's a hobby. He loves airplanes, and is particularly fond of the B-26. "So far as I am concerned, there isn't another plane made that gives the pilot the feeling of satisfaction that he gets when he's piloting a Marauder. There's just something about the plane—I don't know what it is, or just how to explain it. But when you get into a B-26 and take hold of the controls and you get her up in the air—well, so far as I'm concerned it just about tops everything else."

Soft-spoken and with an accent that brands him as a native of the deep south, Fred Bryant has been riding his hobby since 1929 when he bought his first airplane, an open cockpit, 1917 model Standard. Strangely enough, this particular airplane was designed by Charles Day, who is today manager of the Martin-Nebraska Company's Modification Center. To carry the thing even farther, some of the Day-designed Standards were built by The Glenn L. Martin Company under license in 1917.

Born in Wilmington, North Carolina on April 7, 1904, Fred moved with his family to Georgia where he received most of his early education. Later his family moved to Marion, South Carolina. After finishing school, Fred got a job in the local post office. Five years later he was "bitten by the aviation bug," and resigned his job with the government. Bryant's first contact with an airplane was at Brooks Field, Texas, where he received his early training as a cadet in the Army Air Corps.

In 1929, Fred left the Army and went into private business in Marion. In the fall of that same year he married Inez Wooten.

In recalling his experiences with his first airplane, Fred likes to compare it with today's streamlined creations. The old Standard was anything but stable, resembling in many respects the Jennies that were used to train pilots for the last war. Instead of scores of dials and instruments to watch, Fred's first plane contained an altimeter, a speedometer and a compass—"and that was about all." Even in those days, airplanes were expensive luxuries, and since aviation was just a hobby with Bryant, he decided to do what he could to help defray the cost of flying. As a result, he became a "Flying Bill Board," with signs advertising various local concerns painted on the sides of his ship at $10 each.

"My wife, my mother and practically all the natives of Marion thought I was crazy because I spent nearly all my Sundays flying around the countryside," Fred recalled recently. "In fact, my wife got a little miffed—she didn't like the idea of having to spend Sundays alone while I went joy riding in my airplane."

Bryant first put his hobby to practical use in 1940 when he joined the Royal Canadian Air Force as an instructor in navigation at the Air Observers' School in Toronto. Later, he was promoted to Flight Commander and transferred to Chatham, New Brunswick, where he was in charge of organizing a school similar to the Toronto school. In 1941 he was made chief flying instructor for the school he had organized.

During the summer of 1942, Bryant took a vacation trip to his home in South Carolina. On his way back to Canada, he stopped off at Baltimore, and one of the first persons he met was Tommy Taylor, then chief of Operations at The Glenn L. Martin Company. Both Taylor and Bryant saw something familiar about the other. They started checking stories and soon discovered that they both started their training in Texas at the same time. Taylor offered Bryant a job as a test pilot, and a few days later, the Martin-Nebraska operations chief had resigned his commission with the R.C.A.F. and was on his way back to Baltimore.

In May of this year, Bryant was transferred to the Martin-Nebraska Company where he took over the important task of directing the testing of B-26's.

Bryant has a son, 11, and a daughter five. Young Fred the Third is "nuts about airplanes, and I'm going to teach him to fly just as soon as he's old enough and big enough to wrestle a stick."

Young Fred, by the way, had his first ride in an airplane when he was still "a baby in arms." He's been an enthusiast ever since. Maybe you might call him a "chip off the old block."

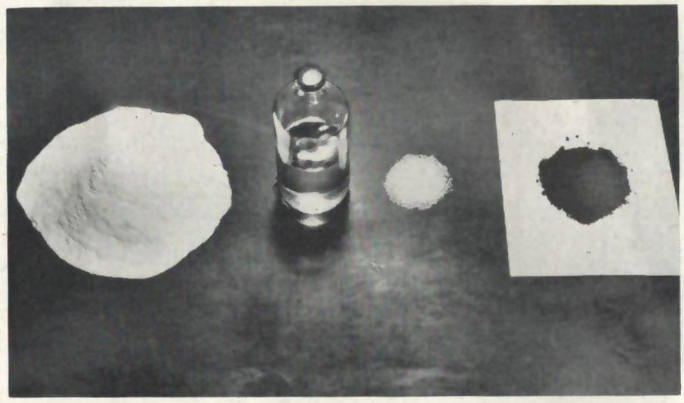
THE MARTIN STAR

Published Monthly by THE GLENN L. MARTIN COMPANY, Baltimore, Md.

"Firsts" for War; "Firsts" for Peace

THERE is a comfortable feeling for Martineers in the Company's announcement of its astonishing new product, Marvinol. Not only do we have the satisfaction of knowing that Martin again has answered an urgent war need, but we have one more assurance that we are building solidly for the future.

The famous Martin "firsts" have never been accidental. They have been just as purposeful as the growth of aviation itself. They have never been flights of fancy that went wide of the mark of aircraft development, even though they have contributed beyond the aeronautical realm. The first free-fall parachute, for example, was not strictly an aircraft invention, but Glenn L. Martin contributed immeasurably to the safety of aviation when Miss "Tiny" Broadwick jumped clear of Martin's plane that day in 1913, pulled a cord and floated lightly to earth.



Who can begrudge us our pride when we realize that Martin scientists supplied two of the most important developments of this greatest of all wars? Could our combat planes have returned so regularly from battle without the self-sealing fuel tank? Many of them would have been tragic wisps of smoke in the skies. Could our bombers have gone, day after day, into action without escort had they not had power-operated gun-turrets? They would never have ventured beyond the short range of convoying fighters. As it is, the bombers have at least as many notches on their guns as the pursuit craft.

These inventions hew to our line, yet we find that the Mareng Cell, on which the self-sealing tank was founded, promises extraordinary utility in other fields—fuel and chemical and grain and water transport and storage, from the railroads to the oil fields to the construction job, and even to the farm and the home.

Then there is the new oil diluent system which came out of the Martin Engineering Department. An aircraft development, surely, designed to make it possible for airplanes to start quick-up in the arctic climates into which this global war has taken us and for fighters to rise immediately when the enemy threatens. But the coming peace will find other uses for it, as well as those in aircraft. Some day we may punch our automobile starter on the bleakest mornings with full confidence that the old bus will answer immediately.

And many industries may benefit from such mechanical developments as our tube and rod bender, our automatic hardness tester, our wire bundle clamps, our wire-marking machine and many other inventions which will save time and expense for other industries, as well as aircraft.

And so with Marvinol, the new elasto-plastic which, for war, fills the gap between natural and synthetic rubbers, as critical shortages become more critical. There are definite aircraft uses for the new product—uses which cannot be discussed at the present time. But just see what has happened! Marvinol projects itself immediately into other fields. It answers war needs far beyond those of aircraft. No one had been able to develop a satisfactory inner-tube from anything but pure gum rubber. The new Martin substance not only delivers a tube, but it is so much better than natural rubber tubes that it provises to supplant rubber entirely for this purpose. Since it doesn't leak air, the motoring world regards with satisfaction the prospect of tires which won't need constant refilling. That means longer use, for soft tires wear out faster.

But that is not all. Lo, Marvinol promises to fill another serious gap. Surgeons at the warfronts and in our hospitals call urgently for more and more rubber gloves. The supply of latex is dwindling. Now the new Martin product enters the picture with gloves which surgeons say feel better and last longer than rubber gloves.

How far will Marvinol go in competing with natural rubber in the post-war period? No one knows yet. Experimentally, many things have been made out of the vinyl-plastic substance. Martin is chiefly concerned with war needs now; luxury and non-essential applications will have to wait. But wouldn't it be great if our Company should be instrumental in declaring American independence from one more critical substance for which we have always had to depend on import?

In any case, our Company's health is important to all who look to it for their own future. Glenn Martin once observed to newsmen that "by-products will play an important part in any company's post-war future."

We will continue to earn our bread from aircraft, but it is nice to think that we may have some butter for it.

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Marvinol

President Glenn L. Martin examines one of the first inner tubes made from Marvinol.

A Marvinol inner tube is removed from a Company station wagon after 8,000 miles of successful service.

New Elasto-Plastic Promises To Outmode Rubber In Many Fields

A sensational new elasto-plastic that promises to blast the last obstacles out of the rubber replacement program as completely as Martin Marauders are blasting the Axis in Europe has just been unveiled by the Glenn L. Martin Plastics Research Laboratory. Known as Marvinol, this new material, has already demonstrated that it is the first chem-elastic substance from which automobile inner tubes, surgeon's gloves and other war needed articles can be made, and holds promise of replacing rubber completely in many products in the post-war era.

It all started several months ago when two young Martin research chemists began work on a special project. Everyone knew that what they were trying to do was impossible—that is, everyone except the two young men themselves and Glenn L. Martin, the airplane builder, who has demonstrated the possibility of so many impossibilities that he has banished the latter word from his vocabulary.

Not knowing that what they were doing couldn't be done, the two young scientists —Clayton F. Ruebensaal and Earl H. Sorg—went on to do it. They developed the new material which they called Marvinol—Mar for Martin and vinol for vinyl. It was not a synthetic rubber, but it had many rubberlike qualities. They tried it in inner tubes, surgeons' gloves and other products where the synthetic rubbers had failed; and not only did it prove satisfactory, but it actually held promise of proving superior to pure gum rubber. Inner tubes made from the elasto-plastic traveled more than 8,000 miles on Company station wagons without losing a single pound of air or showing the slightest sign of wear or deterioration. Marvinol gloves turned in performances impossible to obtain with the finest rubber.

Completely New Material

Marvinol, as Mr. Martin recently informed Government officials and rubber manufacturers, is neither a synthetic rubber nor a rubber substitute, but a completely new material which seems better suited for many of the purposes for which rubber has previously been used than rubber itself, as well as bridging many gaps not hitherto filled by the synthetic rubbers. In the case of inner tubes, for example, the elasto-plastic offers two advantages which are unobtainable with the finest natural rubber—it is completely non-porous, thus eliminating all seepage of air through the sidewall of the tube, and it is 100 per cent reclaimable, so that in cases where a tube is damaged beyond repair, the material from which the tube is made will still retain a high turn-in value.

Superior for Tubes

As in the case of inner tubes, the new elasto-plastic has demonstrated a marked superiority over rubber and synthetic rubber in gloves for surgical, laboratory and household use. Marvinol gloves, hand dipped in the Martin laboratories, have not only been tried out under actual service conditions by surgeons in hospitals, but have been extensively tested in chemical and industrial laboratories where their ability to resist alkalies and acids in water solution resulted in a longevity and standard of performance unobtainable with similar gloves made from any other known material.

Several pairs of these gloves were turned over to the Martin Photographic Laboratory and used for sixteen hours a day in solutions of developer, hypo and other photo chemicals. At the end of more than two months they were still serviceable, showing only slight signs of deterioration. Rubber gloves used under identical conditions had rotted and become completely unserviceable in from one to two weeks.

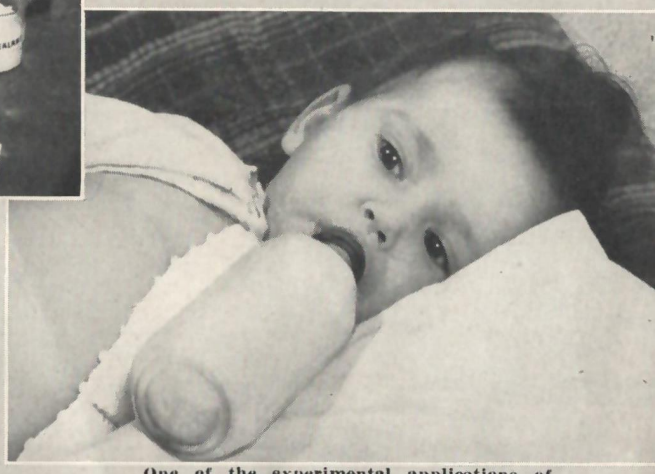
Similar results have been obtained with Marvinol gloves in household use. One of the first pairs ever made was turned over to a housewife six months ago for the

(*Continued on Page* 17)

Here are the ingredients, crude stocks, and some of the products which have been fabricated from the new elasto-plastic. Marvinol articles include inner tubes, laboratory and surgeon's gloves, eye-dropper and fountain sacs, nipples, heels and tinted stock.

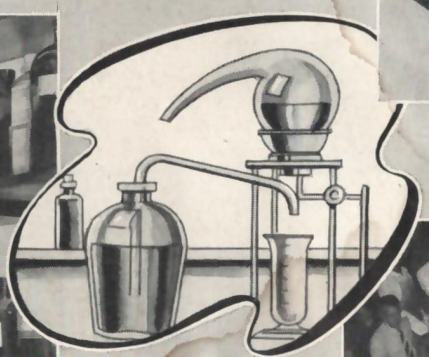
Co-developer Clayton F. Ruebensaal observes an experimental Marvinol formulation in the Martin Plastics Research Laboratory.

Co-developer Earl H. Sorg carries on the reaction by adding some of the secret ingredients that make Marvinol different from any known material.



One of the experimental applications of Marvinol is in nursing bottle nipples which this Martineer's daughter is fully prepared to endorse.

Next to inner tubes the biggest immediate need for Marvinol is in surgeon's gloves, which according to doctors who have tried them, are as comfortable as another layer of skin.



Marvinol gloves are made in the laboratory by dipping glove forms in Marvinol solution. When dry, the glove peels right off the form.

Rubber workers load Marvinol resin on an open mill at the Schenuit Rubber Company. One of the great advantages of the new elasto-plastic is the fact that it can be processed on standard rubber machinery.

Mariners silhouetted against a typical waterspout.

Mariner Survives Waterspout

HIT waterspout—survived same! And of course the ship that did it was a Martin PBM-3 Mariner.

It all took place on September 3rd. Lieutenant E. V. Cain of Transition Training Squadron Atlantic, Banana River Detachment, was piloting the big patrol bomber on a routine operational flight when an area of squalls and thunder storms was encountered.

Lieutenant Cain dropped his ship down to 900 feet, just below the cloud base. The weather and darkness combined to make visibility very poor. Then without any warning the airspeed needle made a complete circuit of the dial and oscillated wildly. Three seconds later there was a sudden and violent shock that rocked the big bomber over on a 45 degree angle. The bow gunner's turret fell down, and loose objects bounced around in the plane. The starboard wing had just crashed head-on into a waterspout. Due to the darkness no member of the crew spotted the spout until the moment of impact, but at that time the second pilot and other crew members reported sighting a white funnel shaped object which they identified as a small waterspout.

The whole thing was over almost as fast as it happened and two seconds later the situation was normal again. Nothing was torn loose, and during the period of impact no marked change in altitude or other unusual instrument readings were noticed.

According to Navy pilots, this incident is unparalleled in the history of naval aviation. For an airplane to hit a waterspout is in itself unusual, but for an airplane to hit a waterspout and come through unscathed is an almost unheard of occurrence. It certainly offers dramatic testimony to the strength and ruggedness built into the PBM-3 Mariner by the men and women of the Martin plants in Middle River.

MARINERS MAKE THEIR OWN WATERSPOUTS, TOO —*This official U. S. Navy photograph shows exploding depth bombs dropped by a Martin PBM-3 Mariner straddling a Nazi U-boat "somewhere in the South Atlantic." The disabled sub was finished off a short time later by U. S. destroyers.*

Hadley V. Saehlenou Made Lieut.-Colonel

Effective September 22, the Army Air Forces resident representative became Lt. Col. Hadley V. Saehlenou, U.S.A. The officer who came to The Glenn L. Martin Company as assistant representative and chief of flight test in September, 1941, had been promoted from the rank of major.

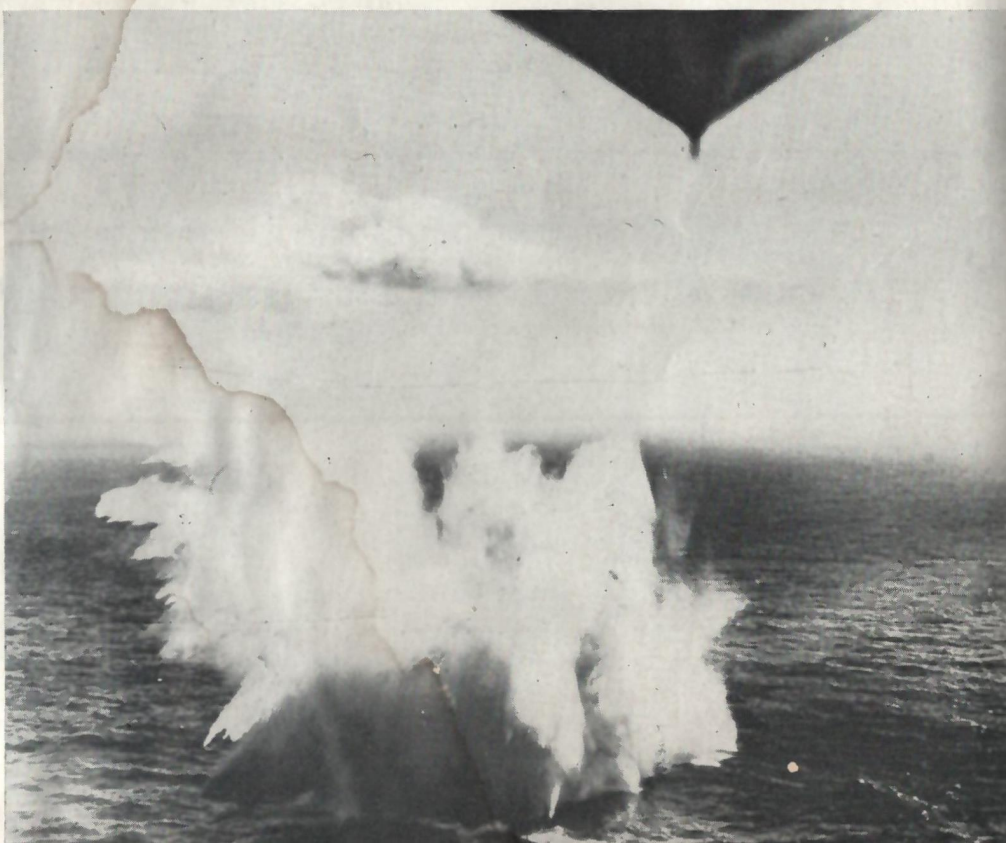
He entered the Army Air Corps in 1935 and after training at Randolph and Kelly Fields, Texas, and for some time with the 94th Pursuit Squadron, First Group, at Selfridge Field, Mich., he was commissioned a second lieutenant in June, 1937.

Later he was stationed at Mitchel Field, New York and in 1940 was promoted to first lieutenant. For a time he served at Langley Field, Va., and then came here as assistant to Col. Carlyle Ridenour (now Brigadier General). When he was assigned elsewhere in August, 1942, Lt. Col. Saehlenou became Army resident representative. He is a native of Iowa and knows as much, if not more, about the B-26 Marauder as any officer in the Army.

Fought In Africa

Not many months ago Albert J. Johnson, Raw Stores, Army Division, was fighting the Afrika Korps in Tunisia. He participated in the occupation of Casablanca, the battle of the Kasserine Pass and the capture of Tunis.

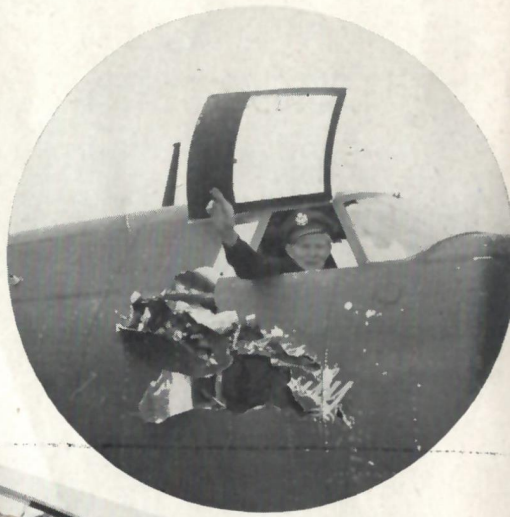
A native of Hartwell, Georgia, Johnson entered the Army at Fort McPherson, Ga., last September. He served in the Infantry a year before being honorably discharged.



Marauders CAN TAKE IT..

This is one of the first pictures showing Marauders, in action over St. Omer-Fort Rouge airdrome in enemy-occupied France, August 9. Note the flak.

Somewhere in England—Second Lt. Ross H. Buk of Hernlon, Kansas, bombardier-navigator, examines a hole chewed in the tail of his Marauder, "Idiot's Delight, II," during a raid over enemy territory. But it brought its crew home safely.



This was a close one, but it takes more than close to stop a Marauder.

The crew of "Miss Emily," a Marauder bomber based in Britain, perches atop the staunch little lady who proved she could "take it" when she received this heavy blow in her side during a daylight raid on Merville airfield.

The crew of "Mr. Fala," the Marauder named for President Roosevelt's pet Scottie, is shown in front of the plane.

Part of the crowd at Army Division.

Mrs. Araminta Martin greeted the crews on their arrival.

Veterans Of Mediterranean And Their Marauders Welcomed Home

THREE of them came back. They returned from the war fronts to receive the plaudits of the thousands who less than a year ago, through sweat and toil converted them from aluminum and rivets into three Martin Marauders.

No longer were they the bright, glistening B-26's, who with the shrill voices of new bombers, rolled out of the hangars for maiden flight to some Army staging area, prior to shipment to North Africa.

Rather were they scarred veterans. Their engines boomed deep, like that of a sergeant with ten service stripes from wrist to elbow. For these Marauders—"Hellcat," "Lady Halitosis" and "Jabbo the Sky King II"—had done a first-rate warfront job. They had more than earned their leave to return to their birthplace.

On the battlefronts they had developed character. What had once been sheets of aluminum and chunks of steel, combined with the brains and brawn of Martin production soldiers and the courage and skill of Army Air Forces fliers, were now honored weapons for democracy.

Collectively, they had participated on 130 combat missions in North Africa and the Mediterranean Theater. They downed 23 Axis planes, both Messerschmitts and Macchis; sunk six Axis ships and three submarines. Hellcat destroyed La Hencha Bridge, an essential avenue of retreat to Field Marshal Rommel's beaten legions.

Every member of the combat crews now holds the Air Medal and many have higher decorations. Thus the B-26's brought fame not only to themselves but to those who flew them and built them.

Had Own Personalities

Each bomber had developed a personality of its own. This was seasoned with the humor that is so typical of courageous American soldiers.

On Jabbo, which had 37 missions, downed eight Axis planes and sank two ships, was written under the turret: "Gunner today, goner tomorrow" and "Holler if you're hurt." Its right and left engines were named by some former crew member "Phyllis" and "Jeanne." Its combat record read: "Tunisia, Pantelleria, Sicily, Sardinia—P.S. Lampedusa."

Hellcat carried on its tail, painted red, "Murder, Inc." This most seasoned veteran, which had been on 50 missions, had downed six ME-109's and three Italian Macchi 202's, and had sunk three ships including a 12,000-ton merchant vessel, was powered by engines named "Maggie" and "Jiggs."

Lady Halitosis bore the more serious message—"Finis origine pendet." Translated roughly from the Latin, it means "the end depends upon the beginning." This can be interpreted further to show that this well-built Marauder had a good beginning and under the capable hands of Army fliers completed its 43 missions well, for it downed six Axis planes, sank one ship and three submarines. Its engines, which powered a plane that dropped 67,000 pounds of bombs on the enemy bases, were named "Dottie" and "Margy."

The "Lady" has had quite a few changes during combat, but managed always to bring back the crews that flew her. She wore out five engines, nine tires; ran through a complete set of brakes and brake seals; four generators, five starters, four carburetors, one magneto and nine sets of 72 spark plugs were among her replacements. "Dottie" had three flak holes through her cowling. "Margy's" auxiliary fuel tank had likewise been punctured by flak in addition to many other parts of the Marauder.

Blue-Ribbon Crews

The men that brought back these Marauders and flew them on many missions are blue-ribbon crews. Before the war they were typical American boys, coming from 15 states. They came from oil fields, college campuses, farms, steel mills, department stores, garages, professional baseball and newspapers and magazines. They were all in absolute accord in their praise of the B-26.

"What do I think of the B-26? Well, I love it. I love it kinda because a lot of folks are afraid of it," drawled Capt. Bryan M. Lloyd, pilot of Hellcat and veteran of 34 combat missions. Capt. Lloyd is a former basketball star at Southern Methodist University, where he was picked on the Southwest Conference team, and lives in Dallas. He's only 22 years old, and holds the Air Medal with four oak leaf clusters.

"The B-26 separates the men from the boys," said Lt. John N. McVay, of Alliance, Ohio, co-pilot on Lady Halitosis.

It Sure Was

His hands inches from the triggers on his waist machine guns and blinded with "blood," Tech. Sgt. Charles B. Woodbury, Covington, Ky., shooting from the B-26 Marauder, "Lady Halitosis," downed a Messerschmitt over Milo airdrome in western Sicily.

The" Lady" had just dropped her bombs. A flak splinter scratched Woodbury's forehead and another burst the hydraulic feed line, causing a gush of red fluid to spurt all over Woodbury, who was installing bongee chords, elastic chords to counteract the slipstream, in the bomb bay, but blinded by the fluid, he accidentally hooked the chords on the triggers—and they began spitting lead.

Suddenly, the turret gunner shouted: "Watch out, Woody, here comes a Messerschmitt!"

Before Woodbury could wipe his eyes clear of the fluid and get his hands on the triggers, the ME-109 flew directly into the stream of lead and went down in a swirl of smoke to crash thousands of feet below. The turret gunner yelled down:

"Say, Woody, that sure was swell shooting."

Folks at Sinclair Division got a thrill from being visited.

Plant 1 Martineers crowd the ramp to hear the fliers talk.

A former star second baseman for Ohio State, Lt. McVay joined the St. Louis Cardinal farm system and played for Portsmouth, Ohio, in the Middle Atlantic League and Columbus, Ga., in the South Atlantic League. He later coached at Alliance High School before joining the Air Forces. He participated in 16 missions and has the Air Medal.

Lt. William H. van Marter, of Seneca Falls, N. Y., asserted that the B-26 "can dish it out and take it." He is the pilot of Lady Halitosis, and holds the Air Medal for his 18 missions.

Lt. van Marter also told of the "Golden Eighteen"—an all too real daily event known to all German prisoners. In the prison camps thep spoke in awe of the "Golden Eighteen." They were three flights of six Marauders which roared over the Axis lines on their missions and always came back.

Lt. William H. vanMarter and the crew of the "Lady Halitosis."

Recount Experience

Lady Halitosis had two grim experiences that her crew members are proud to recount to show how she can take it. On one mission the right engine was shot out and the pilot had to do everything in his power to make a one-engine landing.

On another accasion rough weather knocked loose the load of 300-pound bombs. Three fell through the bomb bay doors, but the rest remained inside. Then the hydraulic system was knocked out. Finally she made a brakeless hot landing with 1500 pounds of bombs rattling around inside. New bomb bay doors and bomb racks were installed for the next trip.

One man had been with that Marauder ever since it was delivered to the Army last autumn. He is Tech. Sgt. Arthur H. Abraham, of Fond du Lac, Wis. He is a graduate of the Martin Service Training School in Class No. 3. In the combat theaters he supervised all the repairs as well as feeding the "Lady" the total ration of 67,601 gallons of gasoline and 6,274 quarts of oil.

"I am very attached to that ship," said Sgt. Abraham. "She has always been dependable and has always come back. I'm glad they picked her out to go home. She deserves it. She has a fine record."

(*Continued on Page* 16)

Capt. Bryan M. Lloyd and the crew of the "Hell Cat."

Lt. Richard W. Meldon and the crew of "Jabbo the Sky King II."

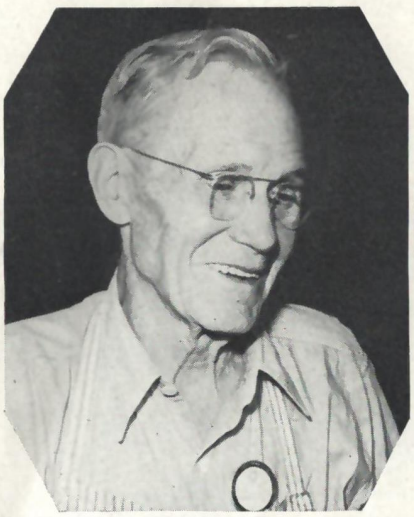
F. C. Stocking, 71, third shift Assembly.

W. H. Wadleigh, 70, Eng. Lab., Modification.

H. W. Spaulding, 71, Spares Depot, second shift.

George Taylo
Depa

C. W. Boles, 70, Metal Bench, second shift.



W. J. Menzies, 71, Salvage, second shift.

E. B. McIlney, 73, Maintenance, Modification.

J. C. Donley,
secon

J. M. Cox, 72, Building and Field.

C. L. Robinson, 72, Metal Bench, third shift.

Novotny, Amato and MisKimon look over plans for addition to main plant.

W. H. Redd,

David Wherry, Ted Maenner and Sen. Kenneth Wherry listen while J. T. Hartson and G. T. Willey outline our operations

First and Second shifts at Ground Test witness Army's acceptance of "Plus 20."

77, Salvage
rtment.

70, Raw Stores,
d shift.

70, Maintenance.

G. E. Row, 70, Plant and Equipment.

W. C. Bradford, 71, Maintenance, Modification.

D. M. Davis, 70, Inspection, second shift.

W. A. Harding, 72, Maintenance, Modification.

A. J. Bowden, 72, Tool Room.

H. M. Paulsen, 71, Metal Bench.

Neophites heading for their first contact with the Nebraska production line.

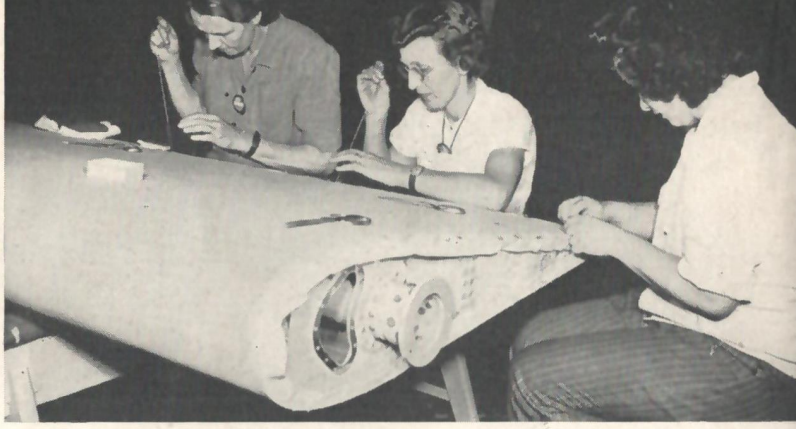
C. E. Edmisten, 72, Maintenance, Modification.

H. E. Worrell, 70, Production.

Second Shift Assemblymen Wagoner, DeMers, Taylor, Westerman, Bianchi and Specht refused to shave until "Plus 20" rolled out the door.

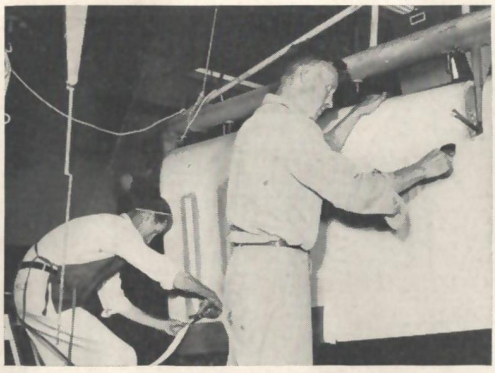
These people work in the dark. It's their job to develop blue prints and photostats.

Third shift sewing girls in Finishing & Plating keep the big power machines going.

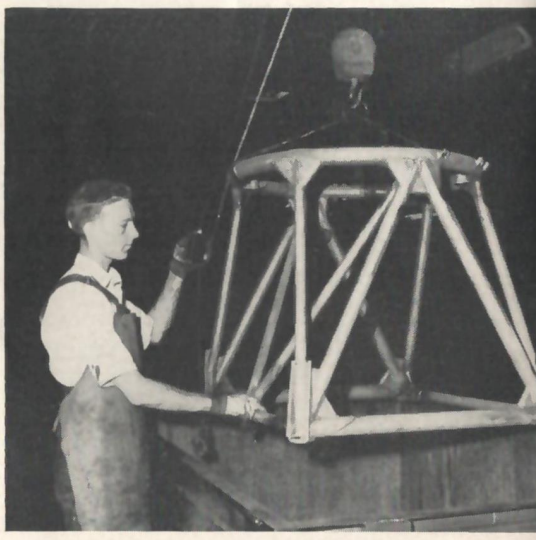


Lydia Selzle, Stella Schroeder and Lena Sova wield needles in preparing the envelope of an elevator prior to doping.

George Harrison sprays small parts in a De Vilbiss spray booth in the Finishing Department.



Don Maher and Hugh Downey installing sealing tapes over fabric holding channels in the Finishing Department.



Jim Jorgenson degreasing a motor mount, an operation that takes about 60 seconds in 185° trichlorene solution.

Finishing, Plating Versatile

"VERSATILITY is our middle name," said W. D. Treat, Supervisor of Finishing and Plating, in speaking of the various duties this department performs.

The personnel of Finishing and Plating, according to Treat, have to be able to adapt themselves easily so that they can shift from one job to another at short notice without disrupting the flow of operation and production in the department. "The reason for this," explained Treat, "is that sometimes we don't know, aside from our regular procedure, what we will be asked to do next.

The two major divisions in the department, Plating under C. A. Nord, foreman, and Finishing under H. D. Sinnett, foreman, are as unlike as night and day. Plating takes care of cadmium plating, anodizing, die-chromatic treatment for castings, sand-blasting and, in addition to this, does all kinds of cleaning.

In Finishing, aside from completing all small parts in detail for any department in the plant, there are a complete sewing department, sign and brush painting departments, and a repair department for self-sealing mareng cells; a surfacing department is in the process of being organized.

With this wide scope of "talents" it is necessary to maintain a full complement of personnel on all three shifts; new expansion plans mean that each shift will be increased in number.

It is estimated that Finishing and Plating handles three times as many parts as any other department in the plant. For example, they replate approximately 18 tons of salvaged material each month.

In order to keep each member of the department acquainted with the work of his fellow employees, an educational program for Finishing and Plating personnel has been developed; by means of a series of photographs, an inexperienced worker can learn visually how to perform other tasks in the department in case of an emergency.

Such a closely-interwoven group couldn't help but be a smoothly operating unit, both in capability and disposition, as evidenced by the fact that the Department is 100 per cent behind the War Bond drive, with each member setting aside at least 10 per cent of his earnings for bonds.

Joseph G. Drawbridge and Elmer B. Butterfield are second and third shift foremen for this hard-hitting group.

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The "Basic Seven"

The seven essential food groups that supply us with the necessary vitamins, minerals, proteins, fats and carbohydrates are as follows: 1. Yellow and green vegetables; 2. oranges, tomatoes, grapefruit, raw cabbage; 3. salad greens, potatoes, other vegetables and fruits; 4. milk and milk products; 5. meat, poultry, fish, eggs; 6. bread, flour, cereals; 7. butter or fortified margarine. To keep healthy all of us have to make up our daily diet from these seven vital food groups.

STORK DEPARTMENT

★ To Mr. and Mrs. Wm. Hetherington (Assembly Modification) a boy, August 7. ★ To Mr. and Mrs. Richard Smith (Modification Production) a boy, August 18. ★ To Mr. and Mrs. Richard Boughten (Modification Assembly) a girl, August 19. ★ To Mr. and Mrs. Hubert Newell (Inspection) a boy, July 5. ★ To Mr. and Mrs. Leslie Scudder (Metal Bench) a girl, August 12. ★ To Mr. and Mrs. Jerry Tiller (Machine Shop) a boy, August 13. ★ To Mr. and Mrs. D. W. Kruse (Spare Parts) a girl, July 4. ★ To Mr. and Mrs. Melvin Graham (Surfaces) a boy, July 31. ★ To Mr. and Mrs. Hubert Nelson (Final Assembly) a girl. ★ To Mr. and Mrs. Charles Smith (Plant & Equipment) a girl, August 5. ★ To Mr. and Mrs. S. Niemec (Turrets) a girl, August 9. ★ To Mr. and Mrs. Dave Greenwald (Flight Section) a girl, August 13. ★ To Mr. and Mrs. Charles Herrick (Sheet Metal Inspection) a girl, July 21. ★ To Mr. and Mrs. Jack Sedlacek (Final Assembly) a girl, August 6. ★ To Mr. and Mrs. Robert Murphy (Final Assembly) a boy, August 14, 1943. ★ To Mr. and Mrs .Ansel Swenson (Modification Assembly) a boy, July 21. ★ To Mr. and Mrs. J. C. Fichter (Wings Section) a girl, August 25. ★ To Mr. and Mrs. James Gohr (Camouflage) a boy, August 3. ★ To Mr. and Mrs. Leonard C. Cordes (Camouflage) a boy, August 17. ★ Mr. and Mrs. Eberson Freeland (Camouflage) a boy, August 24. ★ To Mr. and Mrs. James Trotter (Modification Production) a boy, August 23. ★ To Mr. and Mrs. Robert Chandler (Final Assembly) a boy, September 6. ★ To Mr. and Mrs. Geo Rich (Industrial Relations) a girl, September 1. ★ To Mr. and Mrs. Wm. Keenan (Production) a boy, September 4, 1943.

★ ★ ★

The rolling fictions grow in strength and size,
Each author adding to the former lies.
—SWIFT, translation of Ovid.

"Donations" Fund Solves Gift Problem

How many times have you been asked to donate for flowers, gifts, etc., for someone in the department who is ill—is leaving—is getting married?

All of us have contributed, many times, and haven't objected; but these donations often are a nuisance.

Raw Stores Accounting at Modification, under W. P. Seabold, has developed an idea that works like a charm for those in the department and even for others outside the department who voluntarily belong "on the books."

Beth Baker, who originated the scheme, keeps a book of about fifty names, and every Saturday after each payday, all the "members" donate ten cents to the "Give and Grab Pot," as Seabold calls it.

The surprising thing is that all concerned automatically donate their dimes without ever being reminded of their "dues." Another ledger is kept of the gifts purchased.

Certain rules carry—a person has to be ill three days before qualifying as a recipient of flowers; if they are transferred from one department to another, they are not eligible. The donators, if they leave the company, are free to ask for a refund, but "we'll beat them over the head before they can get it."

In speaking of the balance shown on the books, Beth said: "We were bankrupt the first week we started, but we're back on our feet again."

First shift "pony truck" drivers lined up by Internal Transportation office. At the extreme right are two of the fork-lift trucks, used for moving heavy equipment.

Nebraska's Truckers Keep Stocks Moving

An indispensable unit of Material Transportation, headed by D. H. Frye, is the Internal Transportation group, better known as the accommodating "pony truck" drivers who breeze through the aisles at both plants.

Following prescribed routes through the various departments, these boys quietly keep the stocks rolling, deliver emergency orders and carry office supplies.

Probably many Martineers have noticed the white arrows painted on the wooden bricks at certain intersections and have wondered at the significance of these. The arrows designate one-way aisles and the direction in which the truck should go. With this in mind, the driver has to route his deliveries along the way to avoid back-tracking.

G. T. Willey, Vice-President and General Manager of Martin-Nebraska Company, and J. T. Hartson, Executive Vice-President of Glenn L. Martin Company, "break ground" for the new $2,000,000 extension to the main plant in Omaha.

Orange Blossom Department

★ Fina Destifano (Assembly Modification) to Gerald Smith (Assembly Modification) July 25. ★ Arthur Busart (Inspection Ground Test) to Alice Pollack (Ground Test) August 6. ★ Lois Rickers (Ground Test) to Loren Quickbaum (Ground Test) July 31. ★ Catherine Henne (Metal Bench & Welding) to Eddie Bollinger (Sheet Metal) August 14. ★ Wilma Teeters (Machine Shop) to Chas. Letheby (Sheet Metal) July 31. ★ Rex Hayes (Machine Shop) to Alice Saxton, August 14. ★ Mary Cushing (Chem. Lab.) to Pfc. Milton Anderson, July 24. ★ Gerald Humphreys (Mat. & Proc. Lab.) to June Crandell, July 31. ★ Eugene Knoll (Metallographic Lab.) to Audine Suits (Welding) August 8. ★ Doris Mae Eads (Timekeeping) to Lt. Gene C. Meredith, July 30. ★ June Van Alstine (Modification Purchasing) to Gerald W. Humphreys (Laboratory) July 31. ★ Wesley Grapp (Sheet Metal) to Carolyn Kunik, August 23. ★ Audrey Wright (Inspection) to Herbert Nielsen (Inspection) September 16. ★ Eric Fogel (Metal Bench) to Eleanor Matney (Inspection) July 15. ★ Ben Kanis to Ava Marie Proper (Sheet Metal) September 3. ★ Beulah Hummel ((Modification Timekeeping) to Albert Dizler (Modification Sheet Metal) September 19. ★ Mary Lou Kelly Modification Shipping) to Peyton Pratt, August 7. ★ Olive Coffman (Modification Final Assembly) to Charles Hill, August 23. ★ Agnes Louise Murphy (Modification Arsenal) to Cpl. Donald L. DeVol, August 7.

To the left, above, is shown the office and members of the permanent staff of the Martin-Nebraska Air Forces Technical Training Command. At right above are Lt. J. E. McCarthy, former commanding officer of the training school, and his successor, Lt. W. S. Dickey. It's the job of Lt. Martin J. Desmond, shown beside a B-26 (center left), to work with the soon-to-be crew chiefs at the Modification Center. Lt. Desmond is Assistant Engineering Officer for the school. Crew chiefs must know how to take 'em apart and put 'em together. Right center, a group of them look over a propeller installation. To the left, below, Lt. H. S. Schrei, Engineering Officer, Albert Pierce and Lambert Lamplot of the Martin-Nebraska Education Department, oversee an experiment with hydraulics. To the right, below, a group of students work on a wheel installation.

Crew Chiefs Trained At Martin-Nebraska

THERE are many Martineers who, because of an inability to get away from their places of work, are curious about the other operations on the reservation—who works in those other buildings and what their work has to do with that Martineer's particular job. Every task here at Martin-Nebraska is a link in a long chain, and it all adds up to the fact that getting completed Marauders off the assembly line is our big job.

But the story goes beyond that—what many of us don't know is that enlisted men of the Army Air Forces are sent here to serve as Apprentice Crew Chiefs and accompany the B-26's when they leave here on their Delivery flights. Taking care of all the administrative needs of these men and providing for practical training in addition to what they have already had are the functions of the Army Air Forces Technical Training Command Detachment here.

The officer personnel of the Detachment consists of Lt. W. S. Dickey, commanding officer; Lt. H. J. Schrei, Detachment Engineering Officer, and Lt. M. J. Desmond, Assistant Engineering Officer. These men are assisted by a force of ten assigned enlisted men, who make up the permanent party.

"You build them to fly and we'll keep them flying!" was the reply of a young corporal in answer to one of the many inquiries made by Martin-Nebraska personnel who ask, "What are you Air Corps enlisted men doing here on the Martin reservation?"

When the Apprentice Crew Chiefs come to Omaha, they are just beginning their practical experience in maintaining aircraft. Before coming to the Martin-Nebraska plant, each man has graduated from one of the Army Air Forces Airplane Mechanics Schools and the factory training school at the Martin plant in Baltimore.

The training of the Apprentice Crew Chiefs, while they are here, is under the direction of Lt. H. J. Schrei and Lt. M. J. Desmond.

BEFORE being assigned to an airplane, each man goes through a training program supervised by the Detachment Engineering Officer with the cooperation of the Martin-Nebraska Education Department. The purpose of this training is to give the men actual experience working on an airplane. As the men finish this training, they are assigned to an airplane when it leaves final assembly. The Crew Chief then stays with "his" airplane, working side by side with the Martineers in the hangars and at Modification, gaining more experience on "crewing" the airplane assigned to him. Each Crew Chief's progress is checked daily as he is questioned by Lt. Schrei, Lt. Desmond, or one of their staff of line chiefs.

Martineers have been helpful and can be more so in the future in sharing the knowledge that they have of B-26's with these enlisted men. The Martin people, because of the fact they have worked on the ships, have valuable knowledge which, if made available to the Apprentice Crew Chiefs, serves as a great contribution in their training here.

"Because these men are only apprentice crew chiefs and have a great deal of ground to cover during their training here, the assistance and cooperation extended by the plant's personnel will serve as a valuable factor in their work," Lt. Dickey said.

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Study Nutrition Problem

A bill designed to improve the diets and nutritional status of the American people has been introduced in Congress. An annual appropriation of one million dollars for the duration is asked, the money is to be spent for research and experiments in cooperation with the American Dietetic Association.

When new construction is called for, Plant and Equipment's surveyors are among the first on the job. Three of them, Johnny Entriken, Bert Schaberg and Dell Chapin are shown in the picture to the left above. In the picture to the right, above, Ray MisKimon, left, and Plant Layout Foreman Bill Knuff check blueprints in preparation for a job of installing new equipment in the tool room. Among the many able draftsmen used in Plant and Equipment are the three girls shown in the above picture. They are, from left to right, Lonnie Moyer, Betty Howard and Ferris Cole.

Plant and Equipment Keeps Ball Rolling

A look around the reservation, taking into consideration all the equipment such as tools, machines, trucks, office supplies, and so forth, makes one pause to reflect that someone has the responsibility of knowing where every piece of equipment is at all times. And who has that responsibility? Plant and Equipment.

Around 20,400 cards listing 234,600 items are kept in the department's record files, listing that many expendable items in use somewhere on this reservation. These same records are checked constantly, both by the Company and by Air Forces representatives, for expense, necessity and inventory.

The entire layout of this plant's area, including all the buildings, is also one of this department's responsibilities. Before any construction is attempted, any machinery moved, and any new building work contemplated, Plant and Equipment is consulted for estimates and layout prints. All factory and office equipment is selected by this group after the requisitions are checked for suitability, necessity and future use.

Major appropriations are prepared here as well as appropriations concerning any phase of plant engineering. Naturally, every technical phase is covered before any changes are made.

From the standpoint of good economy, every purchase requisition is checked to see if any substitutes are already available that will avoid additional expense and additional crowding into already overflowing warehouse space.

Hanging on the wall in the office of Ray MisKimon, general foreman of Plant and Equipment, is a motto, "It Can Be Done"—the sign means exactly what it reads as anyone will discover who has ever asked for some work from this department.

★ ★ ★

One eye-witness is of more weight than ten hearsays. Those who hear, speak of what they have heard; those who see, know beyond mistake.—PLAUTUS.

Husband Held Prisoner By Nazis

AN unusual prisoner-of-war is Marianne Jakoubek's husband, Bob, who is interned in Baden-Baden, Germany. Marianne, who works in Cost Accounting at Modification, hears from him about once a month and from his letter has pieced togethed all that has happened to him since September, 1942, when he left by Clipper for France.

Bob left with the American Red Cross to work on relief operations in France at that time. Captured November 8 by the Germans in Marseilles, France, he was sent along with others in the group, first to Lourdes and then, against the wishes of Washington, D. C., to Baden-Baden in the heart of the Black Forest.

Because of the nature of his work, he and his co-workers as well as army and diplomatic officials, are interned in a hotel there, rather than in a regular internment camp.

With time hanging heavy on their hands, this group organized an "educational" program of their own, conducting classes in everything from tap-dancing to geo-politics, whatever each individual's talents best fitted him for. Bob himself taught first-aid, safety and fire practices in connection with disaster work.

A Swiss official of the Red Cross intervened for this group of industrious prisoners, and they are now allowed to attend the University of Badenheim, under heavy guard of course. Marianne believes the prisoners are paying for their tuition, and for the privilege of keeping their minds occupied, naturally they are grateful, regardless of the cost.

Marianne has been surprised that the censors have not deleted any statements her husband makes about bombings he sees or mentions occuring nearby. He refers to being sent out to help fight the forest fires started by these bombings. She herself is always very interested in the spots he states as being damaged, as Marianne went to school in Vienna for a year and traveled through the surrounding region while living there.

It's a constant relief to Marianne to know that Bob is well taken care of, for compared to the treatment doled out in many Axis prison camps, Bob is fortunate indeed.

Marauders and Crews Come Back "Home"

(*Continued from Page 9*)

Lt. Joseph F. Shevelson, New York, N. Y., is the "Lady's" bombardier-navigator. He participated in 16 missions and holds the Air Medal with oak leaf clusters. A former advertising writer for prominent magazines, he on one mission over Pantelleria placed three heavy bombs into five gun emplacements, knocking out 17 enemy AA guns. On a May 27 mission over Sardinia his plane and some other Marauders downed seven ME-109's.

Staff Sgt. Leslie E. Benner, Luling, Texas, the "Lady's" engineer-tail gunner holds the Air Medal and Purple Heart after eleven missions. On a mission over Tunis flak shattered glass in the tail turret. Sixty-eight pieces of flak and glass were found in Benner, but he recovered sufficiently to fly again.

Tech. Sgt. Charles B. Woodbury, Covington, Ky., was the senior member of the group, being 33 years old. He was the "Lady's" radio operator-tail gunner and held the Air Medal with several oak leaf clusters for his 17 missions. His record includes one enemy plane downed over Milo airdrome in Sicily.

Marylander In Crew

The one Maryland boy in this crew was Staff Sgt. John K. Moberly, of Frederick. He was the turret gunner and has the Air Medal with two oak leaf clusters for 18 missions. He has three relatives working at the Martin plant. Mrs. Jean Moberly Pryor, his sister, is in Service Engineering. His brother-in-law, Marion Pryor, is an inspector of turrets at Sinclair, and his first cousin, Morris Walmer, is a first class assemblyman in Body, Army Division, after four years with the company.

"The Martin turret really has a kick to it. From what I've seen of it in flights over Tunisia and Sicily, it really has everything. If I ever go back, I hope it's in a Martin turret," Sgt. Moberly asserted.

Parading to speaker's stand, Plant 1.

The most decorated of the officers was Capt. Henry A. Potter, of Pierre, S. D., navigator of the Hellcat. An Army Air veteran of over three years' service, Capt. Potter holds the Distinguished Flying Cross, the Air Medal with three oak leaf clusters and the Chinese Order of the Celestial Cloud.

In April, 1942, he was the navigator for Major Gen. James H. Doolittle on the famous Tokyo raid. Capt. Potter had been selected along with 20 other volunteer crews at Columbia, S. C., and they were specially trained at Eglin Field, Fla., before going on the Hornet.

After that successful raid, Capt. Potter returned to Barksdale Field, La., where he changed over to B-26's, his favorite bomber. In North Africa he participated in 26 missions. Asked to compare the Japanese with the German pilots, he replied:

"I don't believe we ran into the toughest the Japs had, because we took them by surprise. The Jap fighter pilots seemed second-rate. After a long, hard war the German pilots in Africa seemed quite young.

"I came home once before and was sent out again in B-26's. They brought me back again and that's one of the main reasons I'm here. We all are mighty thankful these planes are coming over. The war isn't over yet. The Japs and Germans are tough fighters, but with your help by building these Marauders, we'll keep on pushing the Axis out of their strongholds, like we did in Africa, Sicily and the Southwest Pacific."

Hellcat's co-pilot, Lt. Harold A. Kohnert, Melrose, Wis., is another recipient of the Air Medal with two oak leaf clusters as well as the D. F. C. He had been on 24 missions and is rated a first pilot.

One of the Army's small number of enlisted bombardiers and a first-rate one according to his officers is Tech. Sgt. Leo F. Mohesky, of Wilson, Kansas, who as the Hellcat's bombardier led many squadron missions. He himself participated in 38 missions and was awarded the Air Medal with five clusters.

Tech. Sgt. Harry E. Barr, Wellston, Ohio, was the Hellcat's armorer-tail gunner. He has 37 missions and holds the Air Medal with five clusters. Staff Sgt. Frank A. Ross, Midland, Pa., the engineer-turret gunner, participated in a like number of missions and has similar decorations.

On 35 Missions

Tech. Sgt. Dean B. Smith, Galion, Ohio, as radio operator-waist gunner on the Hellcat, went on 35 missions and has the Air Medal with eight oak leaf clusters.

Tech. Sgt. Glen M. Wilson, Oskaloosa, Iowa, was Hellcat's crew chief and is a graduate of Class No. 3 of the Glenn L. Martin Service Training School. He graduated in April, 1942, and handled Hellcat for all its 50 missions.

He is proud of the plane that at first seemed to have something go wrong on every mission and received the curse of her pilots. But then came La Hencha Bridge and Hellcat was flown into the burst of an exploded bomb, causing it to lose one engine and return to base full of holes. It was patched up and seemed to mature after that for Hellcat then settled down to become the most reliable ship in the group—and much of this credit is due the crew chief.

Hellcat's first mission was last December 31 over Gabes and the last was July 15 over Sicily. On one other tough mission an engine was shot out by flak over the Sicilian coast. At La Hencha flying last in the formation, Hellcat was so low over the tree tops that mud covered the plexiglass nose and completely obscured the pilot's vision.

Jabbo was the junior member of this three-way partnership for Axis destruction, having arrived in the combat zone in the spring of 1943. But in its short period it packed a lot of action. Its pilot, Lt. Richard W. Meldon, Boston, Mass., participated in 17 missions and holds the Air Medal with four oak leaf clusters. He is quite an expert on skip-bombing.

Autographs were in demand at Canton.

Marvinol May Replace Rubber For Many Uses

(*Continued from Page* 4)

"kitchen test." As we were going to press, the report came in that this same pair of gloves was still going strong and was as good as the day it was received.

In addition to attesting to their wearability, persons using the Marvinol gloves have reported that they are more comfortable than rubber and synthetic rubber gloves, and that they can "feel" better through them. A doctor who tried them described Marvinol surgeon's gloves as being "so comfortable that they feel like another layer of skin."

While the Martin scientists have concentrated their attention on the application of Marvinol for war-needed innertubes, and gloves, and certain aircraft uses which cannot be mentioned for reasons of military security, because of its demonstrated superiority to rubber and synthetic rubber in such applications, they have also duplicated experimentally many other products that are now made only from rubber products such as nipples for nursing bottles, molded goods, fountain pens sacs which ink will not adhere to or stain, bulbs of eye droppers, rubber heels and even pencil erasers.

And the surface of possible application has hardly been scratched. Already since the public announcement of Marvinol on September 17 serious inquiries have been received as to its applicability for carbon dioxide inflated life rafts and for expanding brakes for automobiles and airplanes, and hundreds of other requests and queries are being received daily from military authorities, government agencies and rubber and chemical manufacturers.

According to Mr. Martin, plans for handling the manufacture and distribution of Marvinol are still undetermined.

Uses Not Fully Exploited

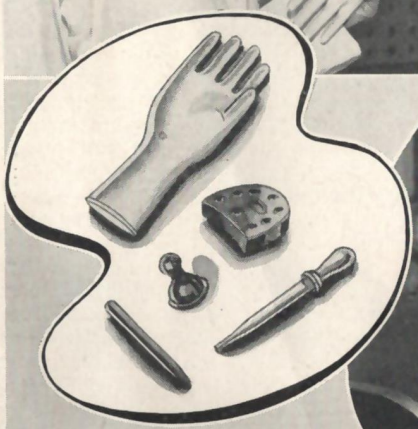
"The new substance was picked out of the research laboratory before its uses and possibilities were fully exploited," he said, "because what we did know convinced us that our material answered critical war needs—particularly for automobile inner tubes. Inner tubes made from Marvinol have proved their serviceability on Company cars. The Glenn L. Martin Company stands ready and willing to license rubber manufacturers designated by the Government to make inner tubes or other war-needed products from Marvinol, and has already started negotiations to bring about immediate quantity production of these tubes."

But Marvinol, as Mr. Martin has pointed out, is not just a war-time rubber replacement, but a brand new material

(*Continued on Page* 18)

The four men behind Marvinol. Left to right: co-developer Clayton F. Ruebensaal, Glenn L. Martin, president of The Glenn L. Martin Company, co-developer Earl H. Sorg, and G. Douglas Jones, Martin patent counsel.

Marvinol gloves are removed from a drying oven at The Glenn L. Martin Plastics Research Laboratory.



One place in which Marvinol gloves have demonstrated their superiority to rubber is photographic laboratories where they are outlasting rubber more than five to one.

Marvinol gloves are given the kitchen test in Stansbury Manor. One pair of these gloves has had six months service and is still going strong.

There's no need to check this tube for air. It's made of Marvinol, the new elasto-plastic, which is completely nonporous, thus eliminating side-wall leakage.

Gordon Jones checks the hinge on a B-26 Marauder, Army Division.

"Big E" Officer Visitor At Martin's

The Enterprise, gallant aircraft carrier known as "Big E" in the Navy, is the workhorse of the United States Fleet. Serving in practically every major Pacific engagement, it has sunk enemy shipping worth ten times in value the original cost of this ship.

Striding her decks as air operations officer the day Pearl Harbor was attacked was a tall, rough-hewn man of the sea, Commander Idris B. Monahan, U.S.N. The "Big E" was in the vicinity of Pearl Harbor on a special mission and so did not suffer any damage in the sneak attack.

Commander Monahan, who had been air ordnance officer, soon became assistant air officer and remained in that capacity during the ship's twelve major engagements. This carrier was to become the only first line carrier to receive the Presidential unit citation.

This was the great ship on which Commander Monahan served from June, 1940, to May, 1943.

Commander Monahan is now assigned to the office of the supervisor of shipbuilding, Newport News, Va. He was a recent visitor at the plant. A graduate of Annapolis in 1928, the Commander served on the Colorado and with Submarine Squadron No. 5 in China for three years, operating between Tsingtao and Manila. In 1935 he won his wings at Pensacola.

Serving with the VF1 on Carriers Langley, Lexington, Saratoga and Ranger, he gained much experience and after additional service with the Cruiser Quincy as senior aviator, returned to Pensacola as chief flight instructor, Squadron 3. He went from there to the glorious Enterprise.

Marvinol May Replace Rubber For Many Uses

(*Continued from Page* 17)

which promises to replace rubber as completely as nylon has replaced silk for many applications in the post-war era.

Actually Marvinol is a vinyl plastic whose basic ingredients are readily-available: coal, limestone, salt and water. In common with the vinyl plastics, it is thermo-plastic and thus easily reclaimed, highly resistant to abrasion, able to withstand constant flexing without fatigue, and impermeable to gases and liquids. For many years such properties have attracted the attention of scientists to this type of plastic as the ideal material to supersede rubber, but up to now the one stumbling bolck has been the failure of vinyl materials to remain stable at high temperatures, in strong sunlight, or when in contact with even dilute acid or alkaline solutions.

Does Not Oxidize Or Age

In the case of Marvinol, however, this supposedly insurmountable obstacle has been overcome by the inclusion of a patented, sealed-in, non-extractable plasticizer in the compound, a plasticizer developed by the two Martin scientists who refused to believe it was impossible. Air, water, sunlight, acid and alkaline solutions and temperatures up to 250° F. do not have any effect on this plasticizer, and a result the Marvinol compounds retain their elasticity, resiliency and flexibility just as pure gum rubber does, with the added advantage that Marvinol does not have rubber's tendency to oxidize or age.

While the unusual chemical and physical properties of the new elasto-plastic make it different from, and in many cases superior to, rubber and synthetic rubber, they have in no way affected its fabricability on regular rubber working machinery. After the plasticizer and sealant have been added in an operation that closely resembles the mixing of cement, the Marvinol resin is placed directly on the rollers of an open type rubber mill. In a few minutes the powdery resin is transformed into a plastic sheet of crude Marvinol stock. This crude Marvinol can then be extruded, molded or calendered just like crude rubber stock. Actually the further processing of Marvinol is simpler than that of rubber, since the whole operation of vulcanization is eliminated. The molding of a Marvinol inner tube, for example, takes only about three minutes as compared to twelve or more for a comparable rubber tube.

In reclaiming Marvinol stock, all that needs be done is add the old material to the mill. After milling, it cannot be differentiated from new material. With rubber, on the other hand, it is first necessary to remove the sulphur and other chemicals added during vulcanization, and the resulting material is far inferior in quality to the original rubber stock.

THIS MONTH'S COVER

If you want to know how a bombardier looks when his ship is on its bombing run, study the cover of this month's STAR closely. Seated in the nose of an A-30 Baltimore is Lieut. William W. Wilson, Air Transport Command, Ferrying Division, and Assistant Control Officer at the Martin Airport. Complete with throat mike, bomb release button, bomb sight and the other paraphernalia of his trade, Lieut. Wilson is just at the point of releasing his deadly load on the enemy below. The picture was taken on the flight line.

The back cover is a picture of a group of B-26 Marauders returning to their North African base after a raid on Sicily, a picture only recently received in this country and one of the best showing Marauders in mass flight over enemy territory.

Does Job in 45 Seconds That Used to Take 10,800

A contraption which looks like a tilted pinball machine and which goes under the innocent name of Electrical Circuit Tester T-326233 is at work down in D-Building Basement saving no end of manhours, headaches and rejections.

Thought up and built by the electrical group of Tool Design, the device checks the proper flow of current in the maze of 201 wires composing the 57 circuits contained in the main radio junction box of the A-30 Baltimore. To top off the job—which it does in 45 seconds—the device tests also the box's impedence matching transformer, audio coupling condenser, and radio frequency filter network.

Before the new device swung into action it took 3 hours to check the box—10,800 seconds as against the present 45. By the old method of testing each circuit one by one, 60 per cent of the boxes that got installed in the planes at a cost of 4 manhours each had to be removed at the cost of an additional manhour apiece. Now rejections run around 1 per cent.

Anne Prostveany, Inspection, checks rivets on a Marauder.

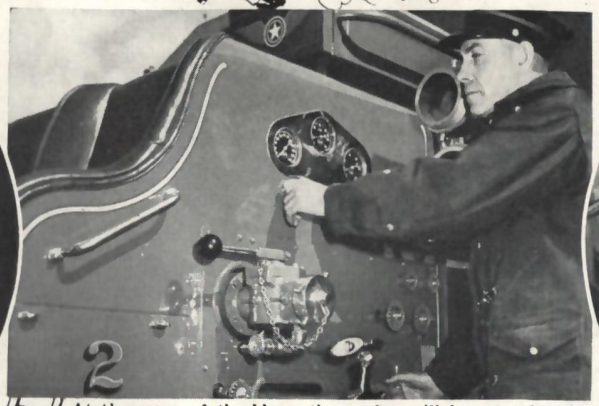
"FIREMEN SAVE MY JOB"--

. . . and more important, save our production. Fires are few in the Martin plants, but if one does start, go to the nearest box and sound the alarm . . .

. . . which will be received and recorded at Fire Department headquarters just like in the city.

The firemen, awaiting instructions . . .

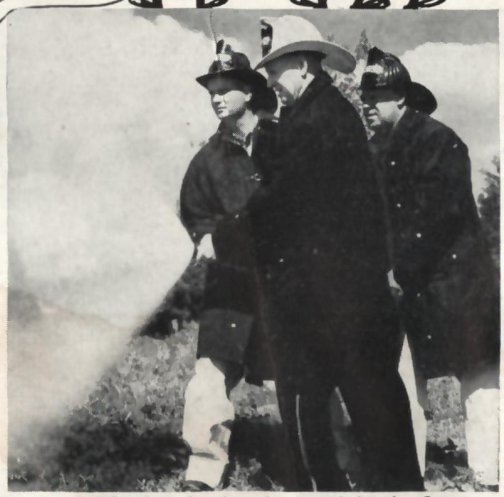
. . . will dash out with their bright new pumper which is housed in one of the Airport hangars.



At the scene of the blaze, the engine will be started and a steady stream of water ready to douse the blaze.

Sometimes asbestos suits are needed, and when they are, these "Men from Mars" make their appearance . . .

. . . and effect a rescue in the best Hollywood manner . . .



. . . while their brother firemen fight the flames with whatever type of extinguisher is needed for that particular fire.

And when it's all over comes the tough part, cleaning up the mess. But then, Martin firemen do a swell job and know they are contributing to the war effort, too, by making it possible for the rest of us to work.

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